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## The Pleasing Fungus Beetles of North Central Mexico Collected on the David Rocke- feller Mexican Expedition of 1947 (Coleoptera, Erotylidae)

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When compared with some of the larger families of beetles, the family Erotylidae with its approximately 3000 species is comparatively small. The pleasing fungus beetles, as they are popularly known, are largely tropical or subtropical, with only a limited number of species extending into the temperate regions. The greatest concentration of the family is in the more humid areas of the Americas. Only a few species have been able to establish themselves in the drier regions. From what we know of the life of these beetles, both the larvae and adults feed upon fungi of various kinds, and it is in the humid areas that the fungi are most abundant.

The larger species of erotylids are usually found under the loose bark of partially decayed logs where fleshy fungi and their mycelium are well established. The smaller species, together with their larvae, are frequently found in fungi of either the mushroom type or the bracket forms growing on tree trunks. They also occur in the soil around or under wood piles, lumber, logs, and even rotting compost heaps.

The Erotylidae are small to medium-sized beetles, oval to roundish, more or less convex, and frequently brightly colored, with contrasting blacks, yellows, reds, and blues. These bright colors make the beetles conspicuous. However, like many brightly colored insects, the pleasing

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fungus beetles have secretions which may make them ill-tasting as food to insect-eating birds, mammals, and amphibians.

The head is small, inserted in the prothorax to the hind margin of the eyes, antennae inserted between or in front of the eyes, 11-segmented, the last three or four segments forming a distinct club. Prothorax with side margins distinct, front coxal cavities usually closed. Elytra entire, covering the abdomen with well-defined epipleurae. Abdomen with five nearly equal segments. Legs moderate in length, the tarsi five-segmented, in many species apparently four-segmented, for the fourth is very small and difficult to distinguish, segments I to III are more or less broad and pubescent underneath, claws simple.

From the endomychids, to which they are closely allied, the erotylids can be separated by the five-segmented or apparently four-segmented tarsi and the lack of the impressed subbasal and longitudinal lines on the prothorax. They are also generally more elongate. The coccinellids, which may also be confused with the erotylids, can be recognized by their more rounded, hemispherical shape, three-segmented tarsi, and the broad, triangular-shaped terminal joint of the maxillary palpi.

The three species representing two genera in this paper were taken by the David Rockefeller expedition of 1947 to the north central highland area of Mexico (Spieth, 1950). The four states of Chihuahua, Durango, Zacatecas, and Coahuila were visited. Previous to the Rockefeller expedition no specimens of Erotylidae from this nearly arid region of Mexico were in the collections of the American Museum of Natural History. We have not as yet enough information to form an accurate idea as to the number of erotylid species occurring in northern Mexico, but it is probable that there are not many. Slightly under 60 species are listed from the United States. Most of these are found in the more humid forested areas of eastern and northern United States, the Rocky Mountain area, and the Pacific states. Fewer than 10 have been taken from the southwestern states of Texas, New Mexico, and Arizona, areas that are quite similar to this north central arid region of Mexico.

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#### GENUS *CYPHEROTYLUS* CROTCH

A genus of medium-sized, oval erotylids closely related to *Erotylus* Fabricius from which it is separated by the fact that the head is produced

in front into a rostrum which is narrowed for the insertion of the antennae, elytra generally yellowish with irregular deep black punctures, prothorax unevenly impressed, and base margined.

This genus is confined to the Americas where it is represented by over 40 species and about five subspecies. Most of these are in the humid, hot, and forested section of South and Central America. A few extend as far south as northern Argentina, and one species and a subspecies are found north of the Mexican border in the southern and southwestern parts of the United States.

*Cypherotylus aspersus* Gorham

*Cypherotylus aspersus* GORHAM, 1888, *Biologia Centrali-Americana*, Coleoptera, vol. 7, p. 108, pl. 6, fig. 9.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Pinos Altos; Santa Clara.

Also New Mexico, Colorado, Arizona.

NEW RECORDS FOR MEXICO: *Chihuahua*: Cañon Prieto, near Primavera, July 2, 1947, 6500–6800 feet, seven; Gaborachic, June 4, 1948, 8000 feet (G. M. Bradt), three. *Durango*: Palos Colorados, August 5, 1947, 8000 feet, one.

This is a widely distributed species. Gorham described it from specimens taken in the eastern as well as the western part of the state of Chihuahua. He did not designate the type locality. To the above distributional records the Rockefeller expedition material added two more localities in Chihuahua and extended the range much farther to the south into the extreme southern part of the state of Durango.

In addition to its Mexican distribution it is now known that this species is commonly found throughout the United States from Arizona and New Mexico north into Colorado. It is found in collections under the name of *boisduvali* Crotch. This name is now relegated to synonymy, for it was preoccupied by *C. boisduvali* Chevrolat for a species occurring in southern Mexico and Guatemala, with a subspecies in California. The two oblique foveae on each side and the deep transverse fovea at the base of the thorax, together with the slightly more convex elytra, will at once separate *boisduvali* from *aspersus*.

*Cypherotylus fenestratus* Gorham

*Cypherotylus fenestratus* GORHAM, 1888, *Biologia Centrali-Americana*, Coleoptera, vol. 7, p. 107, pl. 5, fig. 22.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Durango*: Refugio; Ventanas.

NEW RECORDS FOR MEXICO: *Durango*: Palos Colorados, August 5, 1947, 8000 feet, one; Otinapa, August 7, 1947, 7500 feet, one; Coyotes, Durango District, August 8, 1947, 8300 feet, four; 6 miles northeast of El Salto, Durango District, August 10, 1947, 8500 feet, 15.

Gorham described this species on 15 specimens from Refugio which is in the southeastern part of the state of Durango, and on one specimen from Ventanas in the southwestern part of the same state. He did not designate the type locality. The 21 specimens taken on the expedition were obtained from four localities, all rather close together in the south central part of the state of Durango and about halfway between the two localities recorded by Gorham. The above-recorded distributional records seem to indicate that this species is limited to a very small area in the southern part of the state of Durango.

This is a distinctive species not easily confused with any known Mexican species. It can be quickly recognized by the reddish thorax, with the two blackish spots, one on each side of the median area. These black spots are usually slightly notched on the anterior and posterior sides, and in some cases the notch is so deep as almost to divide the spot into two spots. Gorham mentions that his single specimen from Ventanas is of this type.

#### GENUS *ISCHYRUS* LACORDAIRE

A genus of small beetles, usually less than 10 mm. in length, oval or elongate oval, shiny, patterned in bright reds, yellows, and blacks. From the rest of the members of the tribe Triplacini, the *Ischyrus* species can usually be separated by the rather small head, large, coarsely granulated eyes, triangular mentum, and antennal club which is short and three-segmented.

This large genus, as is *Cypherotylus*, is confined to the Americas where it is represented by over 60 species and several subspecies. Also, most of the species are restricted to the humid hot sections of Central and South America. A few species reach northern Argentina, and three possible species and one subspecies are recorded from the United States.

#### *Ischyrus graphicus* Lacordaire

*Ischyrus graphicus* LACORDAIRE, 1842, Monographie des erotyliens, p. 125.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Veracruz*: Tuxpan.

Also *Nicaragua*: Chontalis.

NEW RECORDS FOR MEXICO: *Chihuahua*: Catarinas, July 25-26, 5800 feet, 40.

The large series of this very attractive and rather widespread beetle



collected on the expedition, all from one locality, extends the range of the species much farther to the north than any previous records. In general it is a species of the hot, humid, and forested area of southern Mexico and Central America. To the south it is closely allied to *I. subcylindricus* Lacordaire (1842) described from Guiana, and at the present time known only from the northern part of South America from Colombia to French Guiana. The two species are scarcely distinguishable and may prove to be the same when more material is available for study, particularly from Panama and Costa Rica, the intermediate area between the two species. On the other hand, superficially it closely resembles the North American species *I. quadripunctatus* Olivier (1791), which ranges throughout a large part of southern United States from Ohio and Illinois south to South Carolina and Florida and west to Missouri and Texas. Gorham (1888) records one specimen of this species from Guatemala. This record I believe to be in error, and probably Gorham confused his specimen with *graphicus*.

*Ischyrus graphicus* differs from *I. quadripunctatus*, according to Gorham, by having the "head more or less rufous" and "the prosternum compressed in front, projecting in a point." In the 40 specimens taken on the expedition this latter character is fairly constant, only a few specimens showing a slight reduction in the prominence of the prosternum and of the projecting point. The red on the head, however, is quite variable in its presence and size. About one-fourth of the specimens have no red at all or only a slight indication of color. About one-half have the red limited to a small spot on the front, and only the remaining 10 have a clearly distinguishable, triangular red area, but this also is limited to the extreme front of the head.

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